



NATIONAL TRAINING CENTER

Protective Force Training Department

Standard Operating Procedure

TITLE:	Live Fire Range Operations
NUMBER:	PFT-SOP-644
REVISION:	1

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REVISION HISTORY

Rev. No.	Effective Date	Description of Revision
1	11/19/07	<ul style="list-style-type: none"> Re-designated and reformatted as 600-level procedure Updated Sections 5, 7, 8.4.2.5, 8.4.2.6, 8.4.3, 8.4.9.2, 8.6.2, 8.9.4, 8.9.7.3, and Appendices A, B, and G
0	03/26/07	Added blue sheet for Echota Technologies Corporation

1.0 PURPOSE

The purpose of this standard operating procedure (SOP) is to assign responsibilities for the safe operation of the U.S. Department of Energy (DOE) National Training Center (NTC) Live Fire Range (LFR).

As a tenant of Kirtland Air Force Base (KAFB), the NTC and its employees, contractors, and visitors must recognize and adhere to all applicable regulations.

2.0 SCOPE

The procedures and responsibilities contained in this SOP are applicable to all NTC LFR users. LFR operations include training, demonstrations, rehearsals, testing or evaluation, and live fire or dry run exercises, under both day and night conditions. These procedures apply to DOE Federal or contractor personnel, NTC instructors and staff, NTC students (regardless of their place of employment), non-DOE agencies that may use the LFR facilities, and all observers.

Failure to comply with the safety rules presented in this SOP may be cause for removal from the LFR training areas. NTC employees may be subject to disciplinary actions, up to and including termination.

3.0 CANCELLATION

This document supersedes NTC SOP 544, *Live Fire Range Operations*, dated December 2006.

4.0 REFERENCES

- 4.1 DOE Order 440.1A, Worker Protection Management for DOE Federal and Contractor Employees
- 4.2 DOE Manual 440.1-1, Explosives Safety
- 4.3 DOE Order 470.4, Safeguards and Security Program
- 4.4 DOE Manual 470.4-3, Chg 1 (or current), Protective Force
- 4.5 DOE Guide 450.4-1B, Integrated Safety Management System Guide
- 4.6 Military Handbook 1027/3B, Range Facilities and Miscellaneous Training Facilities Other Than Buildings
- 4.7 Army Regulation 385-63, Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat
- 4.8 U.S. Air Force Manual 91-201, Explosives Safety Standards
- 4.9 U.S. Department of Defense (DoD) 6055.9-STD, Ammunition and Explosive Safety Standards

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- 4.10 NTC-PM-504, Emergency Management Plan
- 4.11 ESH-GP-518, Personal Protective Equipment
- 4.12 NTC-SOP-536, Shop Operations and General Maintenance
- 4.13 PFT-SOP-645, Live Fire Shoot House
- 4.14 PFT-SOP-646, Engagement Simulation Systems
- 4.15 PFT-SOP-650, Pyrotechnics and Explosives
- 4.16 PFT-SOP-652, Inclement Weather Training Restrictions

5.0 DEFINITIONS

- 5.1 **DAMAGED AMMUNITION.** Ammunition that is too damaged to permit safe firing, such as deformed or torn shell casings resulting from weapon malfunction or rough handling.
- 5.2 **HANG FIRE.** Ammunition that is struck by the weapon's firing pin and fires after a momentary delay.
- 5.3 **INSTRUCTORS.** Individuals responsible for providing instruction to students, conducting demonstrations, and operating firing ranges.
- 5.4 **LFR STAFF.** For the purpose of ammunition issue and return, LFR staff includes the PFT Manager, Range Master, and maintenance staff.
- 5.5 **MALFUNCTION.** A failure of a weapon to function properly or operate in the manner designed. The operator can normally clear a malfunction.
- 5.6 **MISFIRE.** Ammunition where neither the primer nor powder charge ignites when struck by the weapon's firing pin. The indicator for a misfire is when the shooter presses the trigger and only a "click" is heard.
- 5.7 **NON-DOE USERS.** Federal, state, and local (law enforcement/military) agencies that have a current Range Use Agreement (RUA; see Appendix A for sample) with the NTC to use the LFR facilities.
- 5.8 **SQUIB LOAD.** Ammunition that is struck by the weapon's firing pin and only partially functions. When the shooter presses the trigger, the shooter hears a "pop" accompanied by reduced recoil.
- 5.9 **STOPPAGE.** Interruption of the cycle of operation.
- 5.10 **UNAUTHORIZED DISCHARGE.** The discharge of a firearm under circumstances other than (a) during firearms training with the firearm properly pointed downrange (or toward a target), or (b) the intentional firing at hostile parties when deadly force is authorized. (See Appendix B for additional information referring to Unauthorized Discharge Actions.)

NON-PROPRIETARY INFORMATION

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6.0 POLICY

It is NTC policy to conduct firearms and tactical training at the LFR in accordance with DOE requirements. Any deviation from the provisions of this SOP or other written procedures may be approved by the DOE/NTC Director (or designee). This decision may be based on recommendations from the Protective Force Training (PFT) Manager; Range Master; and the Environment, Safety, and Health Program Manager (ESHPM).

All work at the NTC will be conducted in accordance with the DOE's Integrated Safety Management System. It is NTC policy to incorporate safety into the planning and execution of all work and to ensure safety from hazards for NTC workers and the environment. The NTC will implement appropriate controls for those hazards that cannot be totally removed.

7.0 RESPONSIBILITIES

Although each individual is responsible for his or her duties listed in this section, these duties may be delegated to another individual who is equally qualified to perform the same function.

7.1 DOE/NTC Director

7.1.1 Ensure this document is available to all DOE/NTC staff.

7.1.2 Require DOE/NTC staff to read and adhere to this document, as appropriate to their area(s) of responsibility.

7.2 NTC General Manager

The NTC General Manager is responsible for ensuring the activities conducted at the NTC comply with the requirements of all applicable regulations and this SOP.

7.3 Protective Force Training Manager

The PFT Manager is responsible for the safe operation and maintenance of the LFR and all LFR facilities.

7.3.1 Approve, or direct the revision of, written procedures governing operations at the LFR, and ensure updated procedures are approved (signed) by appropriate DOE/NTC and contractor staff.

7.3.2 Approve modification to, or construction of, LFR facilities prior to the start of work.

7.4 Range Master

The Range Master is responsible for the day-to-day operation and maintenance of the LFR.

7.4.1 Ensure all equipment is maintained in safe working order and all required materials are available.

NON-PROPRIETARY INFORMATION

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- 7.4.2 Ensure ammunition requirements are forecast, and ammunition is procured and stored per SOP requirements.
- 7.4.3 Ensure range-related supplies are budgeted, purchased, stored, and issued correctly.
- 7.4.4 Ensure only approved weapons, targets, and supplies are used on the range for every training event.
- 7.4.5 Ensure the RUAs and memoranda of understanding (MOUs) for all LFR users are current and signed.
- 7.4.6 Maintain the following records:
 - Range schedule
 - Range use logs (see Appendix C)
 - Range sign-in / sign-out log (see Appendix D)
 - Ammunition inventory
 - Range equipment inventory
 - Brass inventory
 - Key issue control and key logs
 - Copies of all approved variance from DOE directives and this SOP.
- 7.4.7 Conduct formal LFR orientation (using approved materials and documenting/retaining records) for new instructors and new LFR users that have RUAs or MOUs with the NTC.
- 7.4.8 Conduct annual orientation (using approved materials and documenting/retaining records) for LFR users with current RUAs or MOUs.
- 7.4.9 Provide training to LFR Maintenance staff on the safe use of equipment used at the LFR (Appendix B).
- 7.4.10 Coordinate NTC LFR training that is conducted outside of the LFR with the Controlled Firing Area Committee.
- 7.4.11 Coordinate any range or facility modifications that are required to support training.
- 7.4.12 Ensure instructor-to-shooter ratios are in accordance with the requirements of the DOE M 470.4-3 Chg 1 (or current).

7.5 Lead Instructor

The Lead Instructor is responsible for the overall safe conduct of a specific course.

- 7.5.1 Schedule range and classroom requirements at least 60 days in advance. Schedule Paramedic requirements 60 days in advance (see Section 8.7 for Paramedic scheduling procedures). Provide ammunition requirements to the Range Master, via e-mail, 30 days prior to the start of class. In addition, if unique training aids are required, notify the Range Master at least 45 days prior to the start of class.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- 7.5.2 Sign for ammunition used to support training at both issue and turn in. Another LFR staff member must be present at issue and turn-in of ammunition. Ammunition will not be left unattended and will be secured or under observation at all times.
- 7.5.3 Act as Range Safety Officer (RSO) during NTC training, or designate another instructor to serve as the RSO.
- 7.5.4 Ensure instructor-to-shooter ratios are in accordance with the requirements of the DOE M 470.4-3 Chg 1 (or current).
- 7.5.5 Ensure all students are qualified to participate in training activities to be performed.

7.6 Instructor

The instructor is responsible for the supervision and safe conduct of all training activities conducted at the NTC LFR. Certified instructors, approved by the PFT Manager, are the only persons authorized to conduct training at the LFR.

- 7.6.1 Sign for ammunition used to support training at both issue and turn in. Another LFR staff member must be present at issue and turn-in of ammunition. Ammunition will not be left unattended and will be secured or under observation at all times.
- 7.6.2 Ensure all students and observers have received a safety briefing for the training to be performed that includes the basic range safety rules.
- 7.6.3 Blow the "STOP" whistle and/or announce "CEASE FIRE" in the event of any observed safety violation.
- 7.6.4 Observe loading and unloading of weapons.
- 7.6.5 Conduct demonstrations for students.
- 7.6.6 Ensure all students are wearing required personal protective equipment (PPE) for the training to be undertaken. Eye and ear protection will be the minimum required for live fire.
- 7.6.7 Ensure a Paramedic is on duty and can be contacted by radio prior to training.
- 7.6.8 Notify Paramedic when no longer required for your class.

NOTE: NTC training courses may be conducted on a temporary basis without the presence of a Paramedic with prior approval from the PFT Manager or Range Master. See Section 8.7 for requirements.

- 7.6.9 Only government vehicles that are in direct support of the training activities in progress are allowed on the individual ranges. Exceptions will be authorized by the PFT Manager.
- 7.6.10 Ensure students do not remove ammunition, supplies, or other equipment from the range complex.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- 7.6.11 Inspect weapons for live rounds at the clearing barrel prior to entering weapon-cleaning areas. No live ammunition will be permitted in weapon-cleaning areas.

7.7 LFR Maintenance Staff

LFR Maintenance staff will support training events at the LFR. Under the direction of the Range Master, the LFR Maintenance staff will assist with:

- Ammunition
- Range supplies
- Training props
- Other duties assigned by Instructors through the Range Master.

7.8 Environment, Safety, and Health Program Manager

The ESHPM (or designated Safety Specialist) is responsible for providing safety guidance on course conduct and LFR-related procedures and risk analyses. The ESHPM is also responsible for making inspections and recommendations to ensure compliance with applicable codes, standards, and regulations.

7.9 LFR Users and Visitors

The LFR is a designated Property Protection Area (for safety considerations, the wearing of badges may not be required during training). As such, all visits to the LFR must be coordinated with the Range Master or designee. All visiting personnel must follow the directions posted at the main gate. All personnel will observe requirements associated with the range flags and flashing beacons (see Section 8.9.4).

- 7.9.1 All visitors will proceed to Building 100 and sign in with the Training Assistant. The Training Assistant will locate the PFTD sponsor via telephone or radio and coordinate a meeting place. Once business has been completed, the visitor will sign out in Building 100 prior to departure from the LFR.

- 7.9.2 All maintenance activities at the LFR will be coordinated through the Range Master. Prior to performing any maintenance work, an NTC work order must be submitted to the Range Master for his review and approval (see Appendix B).

Upon arrival at the LFR, maintenance personnel will proceed directly to Building 100 and adhere to procedures (as outlined in Section 7.9.1). Radios will remain on Channel 4 while at the LFR. When possible, all work at the LFR will be coordinated with the Range Master in advance.

- 7.9.3 During regular work hours, DOE LFR users (MOU or RUA) holders will proceed to Building 100 and adhere to procedures (as outlined in Section 7.9.1). If visitors will be attending training sessions, the sponsoring agency will escort their visitors to Building 100 to complete the sign-in procedure. Upon departure, the visitor will be escorted to Building 100 to sign out.

During non-duty hours, sign-in/out procedures will be completed on the Range Use Log (Appendix C). The sponsoring agency will accept responsibility for the visitor.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- 7.9.4 Delivery personnel will coordinate all deliveries with the Range Master or Training Assistant (as outlined in Section 7.9.1).

8.0 OPERATIONS

8.1 Orientation

New DOE or Non-DOE Instructor: Must receive an LFR orientation prior to the use of the LFR facilities. This orientation will include:

A. The contents of this SOP and risk analyses applicable to the training to be given

B. User requirements for:

1. Target systems
2. Lighting systems
3. P.A. systems
4. Proper use of limit poles
5. Audiovisual equipment in classrooms
6. Range use log and sign-in/sign-out procedures
7. Emergency procedures
8. Key issue/turn in
9. Security
10. Use of range flags/beacons
11. LFR access procedures
12. The fact that every participant is a safety officer with stop-work authority.

C. Scheduling procedures for LFR facilities.

8.2 Scheduling and Use of LFR

- 8.2.1 Non-DOE User: Submit a completed RUA to, and get approval from, the NTC Director prior to performing any training activities at the LFR. The RUA will be signed by a senior officer of the requesting agency and will constitute an agreement to follow all requirements found in this SOP. (The RUA form is available on the DOE/NTC website.)

8.2.1.1 The LFR RUA for non-DOE LFR users (agencies) will contain a list of authorized firearms instructors. Only listed instructors will be allowed to conduct training at the LFR. Any additions or deletions to this list must be submitted in writing to the Range Master.

8.2.1.2 All non-DOE LFR users (agencies) that sign the RUA will be responsible for complying with the provisions of this SOP.

8.2.1.3 All DOE LFR users (agencies) who have current MOUs with the NTC Director for use of the LFR will be responsible for complying with the provisions of this SOP.

8.2.1.4 NTC will maintain a list of the RUAs for authorized non-DOE users (agencies) and MOUs held by DOE agencies.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

8.2.1.5 NTC training courses will have priority for scheduling and use of the LFR facilities. Non-NTC users may schedule use of the range facilities after the approved NTC training schedule has been posted. Priority for scheduling shall be granted for non-NTC users as follows:

1. Sandia National Laboratories
2. Office of Secure Transportation
3. Other DOE users
4. Federal, local law enforcement, military.

8.2.2 LFR User: Designate an instructor who will be responsible for ensuring the practices below.

8.2.2.1 **NO LIVE AMMUNITION WILL BE DISPOSED OF IN LFR TRASH CONTAINERS OR MIXED WITH EXPENDED BRASS.**

8.2.2.2 All weapons will be safe, cleared, and inspected upon completion of firing.

8.2.2.3 Weapons will be inspected for live rounds when they are transferred.

8.2.2.4 Weapons will be inspected for live rounds at the clearing barrel prior to entering weapon-cleaning areas, and no live ammunition will be permitted in weapon-cleaning areas.

NOTE: If shooters are returning to duty at the completion of training, they may reload their duty weapons under the direction of an instructor prior to departing the LFR.

8.2.3 LFR User: Obtain permission to use the LFR tactical tower or Live Fire Shoot House from the PFT Manager or Range Master. NTC-certified Live Fire Shoot House instructors are the only instructors authorized to conduct live-fire training in the Live Fire Shoot House. A certified Rappel Master must be present for rappel training.

8.2.4 Non-NTC LFR User: Complete the Range Use Log (Appendix C) prior to and upon completion of training.

8.2.5 LFR User: Approved users will be issued appropriate keys and/or access cards for LFR use during non-normal hours. Users will ensure LFR security is maintained during these hours by closing the main gate upon entering the LFR site.

8.3 Range Use Log

Non-NTC User: Sign in and out using the Range Use Log (see Appendix C for example page). All requested information must be entered onto the appropriate page. There will be no exceptions to this requirement. During regular duty hours, users also must comply with procedures outlined in Section 7.8.1.

NOTE: Repeated failure to fully complete the Range Use Log may be reason to revoke the RUA or MOU for future use of the LFR facilities.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

8.4 Safety

8.4.1 Safety Standards

8.4.1.1 The following DOE standards governing firearms safety at the LFR are mandatory:

- A. DOE Order 440.1B, Worker Protection Management for DOE Federal and Contractor Employees;
- B. DOE Manual 440.1-1, Explosives Safety; and
- C. DOE Manual 470.4-3 Chg 1 (or current), Protective Force

8.4.1.2 The following advisory standards are recognized by DOE:

- A. MIL-HDBK 1027/3B, Range Facilities and Miscellaneous Training Facilities Other Than Buildings;
- B. AR 385-63, Policies and Procedures for Firing Ammunition for Training, Target Practice and Combat;
- C. AF 91-201, Explosives Safety Standards; and
- D. DoD 6055.9-STD, DoD Ammunition and Explosive Safety Standards.

8.4.1.3 Copies of LFR variances from DOE directives will be available for review at the LFR.

8.4.2 General Safety Practices

8.4.2.1 LFR User and Instructor: Wash hands thoroughly with cold water and soap before eating, smoking, inserting or removing contact lenses, or leaving the LFR after live fire training.

8.4.2.2 Instructor: When shooting during operational hours, a second NTC Firearms Instructor must be present. Notify the Paramedic on duty; if no Paramedic is on duty, notify the PFT Manager or designee. A radio is required while shooting.

8.4.2.3 Instructor: When shooting during non-duty hours, a second NTC Firearms Instructor must be present. The second instructor must be certified in first aid and cardiopulmonary resuscitation (CPR) and have a medical trauma kit on the range.

8.4.2.4 LFR User: Yellow range flags will be displayed when maintenance activities are being conducted or when the range is closed. Firearms training will be prohibited on ranges flying yellow flags. When all ranges display yellow flags, no firing of any weapon will be allowed at the LFR. Yellow flags may be removed only after the Range Master (or designee) inspects the range and authorizes its use.

8.4.2.5 LFR User: When firing above the third level of the Tactical Training Tower, ensure the entrance gates are locked and yellow flags are displayed on the adjacent ranges.

NON-PROPRIETARY INFORMATION

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Upon terminating live-fire activity, notify the Range Master so that the adjacent ranges may be reopened.

- 8.4.2.6 LFR User and Instructor: When firing from the firing tower adjacent to the Tactical Training Tower, all personnel must be behind the firing line.

8.4.3 Safety Violations

It is NTC policy that all safety violations will be documented and investigated. Failure to comply could result in the suspension or termination of an organization's RUA or MOU or an individual's range access privileges. Students, instructors, and observers will call "CEASE FIRE" at any time to prevent an unsafe act. Training will not resume until the situation has been safely resolved. The Range Master will be notified of all safety violations.

- 8.4.3.1 LFR User: Responsible for the safety practices below.

- 8.4.3.1.1 Adhere to established safety policies and procedures at all times. Violation of these rules may result in removal from training activities.

- 8.4.3.1.2 Alcoholic beverages and drugs are prohibited on NTC training facilities. If taking medication, report this fact to the Instructor before participating in training. Students suspected of being under the influence of drugs, alcohol, or medication will be removed from training until resolved.

- 8.4.3.2 Instructor: Determine if a student is fit for training based on the medication taken. A physician may be consulted if necessary.

- 8.4.3.3 ESHPM, PFT Manager, Range Master, and Instructor: Conduct periodic safety audits of facility activities by non-DOE users to ensure compliance with LFR safety rules.

8.4.4 Vehicle Safety

LFR User: Comply with the following vehicle safety policies.

- 8.4.4.1 Operators of vehicles on the LFR must have a valid state motor vehicle license.
- 8.4.4.2 Due to heavy pedestrian use and congested facility access, operate vehicles in accordance with all posted traffic regulations.
- 8.4.4.3 Only government vehicles that are in direct support of the training activities in progress are allowed on the individual ranges. Exceptions will be authorized by the PFT Manager.
- 8.4.4.4 Ensure students being transported at the LFR are seated in the vehicles using seat belts and shoulder restraints. Students may not be transported in the truck beds.
- 8.4.4.5 Specialty vehicles used at LFR (i.e., forklifts) will be operated by personnel who have received appropriate training for such vehicles.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- 8.4.4.6 Vehicles used for training purposes will be inspected to ensure the vehicle is in proper condition for its intended use.

8.4.5 Personal Protective Equipment

- 8.4.5.1 LFR User: Comply with the PPE requirements below.

- 8.4.5.1.1 Wear proper attire during all LFR activities. Hats with brims or helmets will be required when shooting on steel targets closer than 50 yards (46 meters). Body armor will be required for all instructors, students, and observers engaged in live fire training in the Live Fire Shoot House.

- 8.4.5.1.2 Wear eye protection that meets the requirements of ANSI Z87.1-2003, Practice for Occupational and Educational Eye and Face Protection, if within 15 yards (14 meters) of a firing line. Eye protection also will be required in the Armory when machines are in operation, anywhere weapons are assembled or disassembled for cleaning or maintenance, and in the weapons-cleaning areas. Side shields or wraparounds will be required when shooters, instructors, or observers are within 50 yards (46 meters) of steel targets.

- 8.4.5.1.3 Wear approved hearing protection with a minimum noise reduction rating (NRR) of 26 decibels within 15 yards (14 meters) of a firing line.

- 8.4.5.2 PFT Manager, Range Master, ESHPM, and Instructors: May prevent the participation of any individual whose attire is considered unsafe for the training.

8.4.6 Weapons

- 8.4.6.1 Privately owned weapons will not be used at the NTC LFR unless approved, in writing, by the DOE/NTC Director (or designee).

- 8.4.6.2 Upon request, written approval by their authorizing agency is required for non-DOE LFR users that carry privately owned weapons for duty purposes.

- 8.4.6.3 As a tenant of Kirtland Air Force Base (KAFB), NTC employees and LFR users must adhere to all applicable regulations pertaining to transportation and carrying of personal weapons.

- 8.4.6.4 All weapons and ammunition must be stored in an approved location.

- 8.4.6.5 Concealed weapons are prohibited at NTC facilities.

8.4.7 Exchanging of Firearms

- 8.4.7.1 LFR User: Never give a firearm to, or take a firearm from, any person unless directed by an instructor and the weapon is in a safe condition: safety on, ammunition/magazine removed, action open, and chambers clear.

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8.4.7.2 LFR User: If a student experiences a stoppage on the firing line and the instructor has to intervene to clear the weapon, the instructor may do so as long as the weapon is pointed down range at all times.

8.4.7.3 Instructor: Prior to the exchange, verify the cylinder or action of the firearm is open, the chamber is empty, and the safety is on.

8.4.8 Weapons Loading and Unloading

8.4.8.1 LFR User: Load and unload all weapons under the supervision of an instructor:

- A. On a range, weapon pointed downrange, and within the range limitation poles;
- B. Into an appropriate bullet containment device; or
- C. At a designated area at the Live Fire Shoot House.

8.4.8.2 Instructor: Weapons used for dry fire demonstrations shall be unloaded and verified prior to use.

8.4.8.3 Instructor: All classroom demonstrations must be performed with unloaded or simulated weapons. Before using a firearm for classroom demonstration, clear it into a bullet containment device and ask a student or other instructor to verify that the weapon and magazine to be used have been cleared. Only clearly identifiable inert training rounds may be used for classroom demonstrations.

NOTE: Weapons used for classroom demonstrations at the NTC Main Campus will be simulated weapons only (for example, red guns) unless an exception is approved by the NTC Director and PFT Manager.

8.4.8.4 Instructor: Ensure shooters unload, clear, and safe firearms at appropriate times (for example, before breaks, meals, placement in rifle racks, brass call, weapons cleaning, at the end of training, and when leaving a range).

8.4.9 Weapons and Ammunition Malfunctions

8.4.9.1 Overview

8.4.9.1.1 LFR User: The procedures in Appendix I provide general guidelines for the disposal of the duds and misfires of diversionary devices. The steps require the use of safety glasses with side shield protection, hearing protection, gloves, and a ballistic vest for protection.

8.4.9.1.2 Shooter: When experiencing a weapon malfunction, keep the muzzle pointed downrange and clear the malfunction according to the method approved for the malfunction that occurred. Notify an instructor if you cannot clear a malfunction.

8.4.9.1.3 Instructors: In the event of misfires, hang fires, squib loads, and damaged ammunition, immediately stop training, testing, and evaluation exercises until the problem is corrected. Properly dispose of damaged or dud ammunition.

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8.4.9.2 Diversionary Devices

8.4.9.2.1 Combined Tactical Systems (CTS) Model 7290

1. Allow the device to sit at least 30 minutes.
2. Approach the device wearing the required PPE noted above.
3. With a long-handled shovel, collect the device and place in the designated sand-filled container.
4. Notify the Range Master that the device has been placed in the container for disposal.
5. After the device has been rendered safe, the Range Master will take the device to a safe location or range and destroy it by shooting it with a .223 caliber (or larger) bullet to the center of the body.

8.4.9.2.2 Defense Technology/Federal Laboratories (Def-TEC) No. 25

1. Allow the device to sit for at least 30 minutes.
2. Examine the device from a safe distance for a hang-fire fuse.
3. With a long-handled shovel, collect the device and place the device into a 5-gallon container of water.
4. Notify the Range Master that the device has been placed in the container for disposal.
5. The Range Master will ensure the container remains in a safe location for 24 hours.
6. After the 24-hour period, the device will be safe and the safe can be removed.

CAUTION: Do not attempt to puncture, penetrate, or open the cardboard tube as ignition could take place, resulting in serious injury or death.

8.4.9.3 37mm and 40mm Training Practice Rounds

8.4.9.3.1 Shooter:

1. Keep the launcher pointed in a safe direction, shout "misfire," and wait 30 seconds to see if the ammunition hang fires.
2. Remove the ammunition from the weapon, and place it on the ground.
3. At the end of the string of fire, notify the instructor who will retrieve ammunition.

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8.4.9.3.2 Instructor:

1. May attempt to fire the ammunition again up to three times. If the ammunition will not fire, put the misfired ammunition into its shipping configuration and clearly print the word "MISFIRED" on the outside of the container. Place the shipping container in the designated sand-filled container.
2. Notify the Range Master that the device has been placed in the container for disposal.

8.4.9.3.3 Range Master: After device has been rendered safe, ensure the repackaged ammunition will be processed for disposal.**8.4.9.4 Rifle and Handgun Ammunition****8.4.9.4.1 Misfires****8.4.9.4.1.1 Shooter:** At the end of the training, retrieve the misfired ammunition and put it in the "Bad Ammo" can.**8.4.9.4.1.2 NTC Instructor:** If you experience several misfires with the same type of ammunition, notify the Range Master.**8.4.9.4.1.3 LFR Support Staff:** Empty the "Bad Ammo" cans and transfer the contents to the Target Storage Room, Building R-4.**8.4.9.4.2 Squib Load**

WARNING: A squib load may have lodged a bullet in the barrel of the weapon. If another bullet is fired into the obstructed barrel, the barrel could fail, causing an injury to the shooter or observer.

8.4.9.4.2.1 Shooter: Stop firing immediately, keep the muzzle pointed down range, and notify an instructor.**8.4.9.4.2.2 Instructor:** Direct the shooter to maintain his/her position of readiness, with the muzzle pointed at their target for 15 seconds. Direct the shooter to unload the firearm.**8.4.9.4.2.3 Instructor:** Inspect the ammunition to ensure both the bullet and case are intact. If the ammunition is not intact, the bore will be inspected for obstructions.**8.4.9.4.2.4 Armorer:** Determine appropriate procedure for removing obstruction from barrel.**8.4.9.4.2.5 NTC Instructor:** Report squib loads to the Range Master.**8.4.9.4.2.6 Shooter:** Ammunition that is intact will be placed in the yellow "Bad Ammo" cans located on each range.**NON-PROPRIETARY INFORMATION**

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- 8.4.9.4.2.7 LFR Support Staff: Empty the “Bad Ammo” cans and transfer the contents to the Target Storage Room, Building R-4.

8.4.9.4.3 Damaged Ammunition

- 8.4.9.4.3.1 Shooter: Turn damaged ammunition over to an instructor or place it in the yellow “Bad Ammo” cans located on each range.
- 8.4.9.4.3.2 LFR Support Staff or Designated Instructor: Will empty the “Bad Ammo” cans and transfer the contents to the Target Storage Room, Building R-4.

8.4.10 Instructor Equipment

- 8.4.10.1 Lead Instructor: Ensure instructors have weapons, holsters, radios, and other equipment that are safe and serviceable for use.
- 8.4.10.2 Instructor: Ensure weapons, holsters, radios, and other equipment to be used are in a safe and serviceable condition. Only DOE-owned weapons may be used unless an exception is granted by the DOE/NTC Director (or designee).

8.4.11 Inclement Weather

When weather conditions may negatively impact training, the training will be canceled or suspended until it is safe to resume. Guidance found in PFT-SOP-652, Inclement Weather Training Restrictions, will be followed.

8.5 LFR Instructor Authorization

- 8.5.1 New NTC Instructor: Must take (at a minimum) Basic Instructor Training and Firearms Instructor Certification, as well as any other applicable NTC course in order to meet the technical qualifications required for the courses he/she will teach.
- 8.5.2 New NTC Instructor: Must receive an LFR orientation prior to conducting any training activities at the LFR. New instructors must contact the Range Master to schedule the LFR orientation.
- 8.5.3 Veteran NTC Instructor: Must maintain all qualifications as specified in NTC Training Operations SOP 311, Certifications and Qualifications.

8.6 Instructor-to-Shooter Ratio

8.6.1 General

Firearms training instructor-to-shooter ratios will be in accordance with DOE Manual 470.4-3 Chg 1 (or current), as follows:

- A. One-to-one for automatic fire training (see 8.5.1(E) below for exception);
- B. One-to-one for explosive projectile firearm training;

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- C. One-to-one for firearm training requiring the shooter to move to multiple firing positions on the firing range;
- D. One-to-one for courses with a fan of fire greater than 10 degrees or movement of the shooter other than straight downrange;
- E. One-to-four for any re-qualification with submachine gun, rifle, or machine gun in automatic mode using controlled burst of fire;
- F. One-to-four for night fire training and initial firearms training. The one-to-four ratio will be applied to all Basic Security Police Officer Training (BSPOT), Tactical Response Force (TRF), and other initial firearms training involving tactical movement;
- G. One-to-eight for any firearm training in semiautomatic mode; and
- H. One-to-eight for NTC courses of fire involving tactical movement (excludes initial firearms, TRF, and BSPOT trainees).

8.6.2 Special Response Team or Tactical Response Force Courses

An exception to the one-to-one instructor-to-shooter ratio will be made for shooting-on-the-move for the following courses that have been developed by the NTC and approved by the DOE Office of Health, Safety and Security (HSS):

- Security Police Officer III (SPOIII)
- TRF 1
- TRF 2

The ratio for these excepted courses will be no greater than one-to-four.

8.6.3 Live Fire Shoot House Training

During Live Fire Shoot House training, a “shooter” is defined as any participant who enters the Live Fire Shoot House as part of the exercise and carries a firearm. An individual who meets this definition will be considered a shooter for the instructor-to-shooter ratio purposes until the exercise has been terminated.

For an approved NTC SPOIII / TRF course conducted in the Live Fire Shoot House, the instructor-to-shooter ratio will be a minimum of one-to-four (see PFT-SOP-645, Live Fire Shoot House).

8.7 Presence of Paramedic

A Paramedic must be present at the LFR during NTC-sponsored live-fire training. An exception to this requirement may be granted on a temporary basis with prior approval from the Range Master or PFT Manager. Approval will be based on the presence at the active range of an NTC Instructor who is currently trained and certified in first aid and CPR and is in possession of a medical trauma kit. The approval will be documented, and copies will be provided to the PFT Manager and the NTC’s Environment, Safety, Health, and Quality Assurance (ESH&QA) Department.

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8.7.1 Lead Instructor: At least 60 days in advance, provide the Lead Paramedic with the dates, hours, and location for which a Paramedic will be required. Fill out the PFTD Paramedic Request form, and send it electronically to the Lead Paramedic and copy the message to the Range Master.

8.7.2 Range Master: Ensure Paramedics are scheduled based on the Lead Instructor's requirements.

8.7.3 Paramedic: Attend all NTC live fire and other hazardous training activities for which he or she has been scheduled.

8.7.4 Lead Instructor: Notify the Paramedic prior to beginning training and when he or she is no longer required for the class.

8.8 Designation of Range Safety Officer

The RSO is the designated and trained instructor responsible for safety during the live fire training (see Appendix G for RSO duties and responsibilities).

8.8.1 RSO: Must be present during all range firearms training, including qualifications.

8.8.2 Instructor: When the shooter-to-instructor ratio requires only one instructor on the firing line, the instructor may act as the Lead Instructor and RSO, if approved by the Range Master. When the shooter-to-instructor ratio requires two or more instructors on the firing line, a Lead Instructor will preside over the firing activities and may act as the RSO, and will not be assigned additional instructional duties or be included in the shooter-to-instructor ratio.

8.9 Facilities

8.9.1 Targets, Frames, and Bullet Traps

8.9.1.1 Each range has a target storage area for new targets and frames. Bins will be provided for the storage of used targets, and an area will be designated for the storage of damaged target frames.

8.9.1.2 LFR User: Responsible for the tasks below.

8.9.1.2.1 Properly dispose of damaged target frames and replace with new frames.

8.9.1.2.2 Inspect bullet traps before and after each use. Check the armor plate backing for dents, bow or bending, cracks, and holes.

8.9.1.2.3 Prior to and upon completion of scheduled Shoot House operations, the user shall conduct a walk-through inspection of the condition of all walls and bullet traps, recording results on the Shoot House Inspection Form (SOP 645, Appendix C). The completed form shall be turned in to the LFR Training Assistant's office. Failure to comply could result in the suspension of that organization's RUA or MOU; for NTC training, appropriate administrative action may apply. During non-duty hours, the

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completed inspection forms are to be placed in the form box located at the entrance to the Shoot House.

8.9.1.2.4 Ensure that all staples used to hold targets to frames and bullet traps are removed upon completion of training.

8.9.1.2.5 Inspect steel targets for dents, bow, holes, or cracks before each use. (See DOE Manual 470.4-3, Chg 1 [or current], Protective Force, for more information.)

8.9.1.2.6 Coordinate with the Range Master on any targets placed outside the primary impact berms.

8.9.1.2.7 Notify the Range Master if any LFR training apparatus is damaged.

8.9.1.3 LFR Maintenance Staff: Responsible for the tasks below.

8.9.1.3.1 Before transporting steel targets from storage to a range, ensure that all bolts and pins are in place and properly tightened.

8.9.1.3.2 Replace plywood facings when required. Remove damaged bullet traps from service. Repair damage to the wooden structure and to LINATEX that has been torn, contains holes, or is otherwise damaged.

NOTE: In the event a shooter misses the bullet trap, the following procedures should be followed:

- A. Once discovered by NTC contract personnel, DOE/NTC Training Program staff shall be notified immediately.
- B. If caused by an NTC student while training under an approved NTC lesson plan, that student shall no longer be allowed to participate in Shoot House drills. Students will be briefed on this requirement in advance.
- C. If caused by a RUA or MOU holder after the fact, that User shall no longer be authorized access to the Shoot House until otherwise authorized by DOE/NTC Training Programs. Costs for damages may be charged to the RUA or MOU holder.
- D. The NTC contractor shall repair all holes in the interior walls of the Shoot House.
- E. If bullet traps are discovered to have been hit with non-frangible rifle rounds, the PFT Manager, Range Master, and ESHPM will be notified immediately.

8.9.2 Range Equipment

8.9.2.1 LFR User: Obtain Range Master approval to use LFR support equipment such as turning targets or moving targets, the lighting system, and the public address systems.

8.9.2.2 LFR User: Obtain Range Master approval to use the following training facilities:

- Shoot house facade

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- Tactical training tower
- Live Fire Shoot House

NOTE: Use of these facilities may require advance notice due to set-up time requirements.

- 8.9.2.3 Range Master or Instructor: Provide training in the safe operation of all LFR support equipment, including PPE requirements.

8.9.3 Range Maintenance

LFR User: Adhere to the range maintenance procedures listed below.

- 8.9.3.1 Ensure good housekeeping practices are used on all ranges during training. Police brass regularly. Secure ammunition boxes, targets, and other materials to prevent them from blowing away or being damaged by wind. Upon completion of training, ensure LFR equipment, ranges, and classrooms are secured.
- 8.9.3.2 Report any item needing repair to the Range Master or PFT Manager.
- 8.9.3.3 Direct all firing toward designated targets only. Firing at target frames, signs, barricades, lights, or other range equipment is prohibited.

NOTE: Personnel and equipment will not be permitted on berms, except as required to maintain them.

8.9.4 Range Flags and Flashing Red Beacon

Before any firearms activities can begin on the range, red flags will be raised. When visibility is limited by weather conditions or darkness, the flashing red beacon must be used. The flag will be secured and/or flashing red beacon will be turned off at the conclusion of firing.

Yellow range flags will be displayed when personnel are down range or the range is closed. Firearms training will be prohibited on ranges flying yellow flags. When all ranges display yellow flags, no firing of any weapon will be allowed on the LFR. Yellow flags may be removed only after the Range Master (or designee) inspects the range and authorizes its use.

When weapons are to be fired above the third level of the Tactical Training Tower, the entrance gates to the adjacent ranges must be locked and their yellow flags must be displayed. When live-fire training has concluded, the Range Master (or designee) is responsible for reopening the adjacent ranges.

8.9.5 Steel Targets

LFR training with steel targets will be conducted according to the guidelines in DOE Manual 470.4-3 Chg 1 (or current).

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Portable steel targets may be used on all ranges provided that the direction of fire is within the limit poles for the weapons in use and minimum shooter-to-target distances are maintained. A sandbag or other protective barrier will cover the base of the target.

8.9.5.1 LFR User: Responsible for the tasks below.

8.9.5.1.1 Observe the following minimum shooter-to-target distances for steel targets when firing ball ammunition:

- A. 7 yards (21 feet or 6 meters) for pistols and submachine guns
- B. 7 yards (21 feet or 6 meters) for shotguns with buckshot
- C. 50 yards (150 feet or 46 meters) for shotguns with slugs
- D. 100 yards (300 feet or 91 meters) for rifles firing service ammunition, unless prior approval is obtained from the Range Master

8.9.5.1.2 Obtain approval from the Range Master or PFT Manager prior to using steel targets.

8.9.5.1.3 Wear hats with brims or equivalent (for example, helmets) when shooting on steel targets closer than 50 yards (46 meters).

8.9.5.1.4 May not use NTC-owned steel targets without approval of the Range Master.

8.9.5.1.5 Will not place or engage targets outside of the berms without prior approval of the Range Master.

8.9.5.1.6 Will not engage targets outside of the berms during fire conditions set a "VERY HIGH" or higher.

8.9.5.2 PFT Manager or Range Master: Must inspect and approve steel targets not owned by the NTC prior to their use.

8.9.5.3 Range Master: Must approve the ammunition to be fired on steel targets.

8.9.5.4 Instructor: When conducting courses of fire, ensure that only targets intended for use in the training are in view.

8.9.5.5 Instructor: Inspect steel targets prior to each exercise. Criteria for rejection of a target include:

- Bow or bend in excess of 10 degrees,
- Dimples in excess of 1/16-inch,
- Holes, or
- Cracks.

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8.9.6 Brass

8.9.6.1 Lead Instructor: Ensure brass is picked up, and does not accumulate and become a slipping hazard. At the end of a course, ensure that all ranges that were used are free of brass.

8.9.6.2 LFR User: Place brass in designated containers.

8.9.6.2.1 Do not mix brass and unexpended ammunition.

8.9.6.2.2 **DO NOT PUT LIVE AMMUNITION IN LFR TRASHCANS.**

8.9.6.2.3 Do not use hats or pockets to carry brass.

8.9.6.3 LFR User: Wash hands with cold water and soap before leaving the LFR.

8.9.7 Ammunition

Ammunition and explosive storage, handling, and transportation will be conducted in accordance with DOE M 440.1-1, Explosives Safety Manual, or AFM 91-201, Explosives Safety Standards (whichever is more stringent).

Live ammunition will be kept in factory containers until loaded into appropriate ammunition carriers. When ammunition carriers are unloaded, the live ammunition will be returned to the appropriate factory container. Odd ammunition left after this process will be returned to the factory container and marked to indicate the number of rounds remaining.

Ammunition delivered to the ranges will be placed on a bordered table top for dispensing.

NOTE: Tracer ammunition may not be fired on any range without prior Range Master approval. Armor-piercing ammunition is prohibited on steel targets. The use or storage of Hazard/Class Division 1.1 explosives is prohibited at the LFR.

8.9.7.1 Range Master: Provide ammunition for NTC courses.

8.9.7.2 Lead Instructor: Ensure that all ammunition is handled in a safe manner consistent with this SOP and NTC-SOP-649, Storage and Transportation of Explosives. At the end of each day of firing, collect and return all unused ammunition to the appropriate bunker.

8.9.7.3 LFR Staff: Two people are required for ammunition handling regardless of check-in or check-out. At least one must be an LFR staff member (PFT Manager, Range Master, or LFR Maintenance staff member); the other may be an FTE Instructor. Only LFR staff members are allowed in the bunker.

1. The Instructor will make a request to the LFR staff member.

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2. The LFR staff member will retrieve the ammunition and hand it to the Instructor, who loads the vehicle.
 3. The Instructor will count to verify the quantity and departs.
 4. The LFR staff member will conduct an inventory of the remaining ammunition. If correct, the LFR staff member will secure and depart from the bunker. If there is a discrepancy, he/she must notify the Range Master.
- 8.9.7.4 **Non-NTC User:** Provide the Range Master with the caliber, type, weight, and number of all rounds expended during each LFR training session. This information must be recorded in the Range Use Log (see Appendix C).
- 8.9.7.5 **LFR User:** Live ammunition that has been dropped on the ground must be inspected for damage by an Instructor prior to being used during training. Live ammunition found on the ground that is not inspected will be disposed of as unserviceable ammunition. Unserviceable ammunition (Appendix I) will be placed in yellow "Bad Ammo" cans. Live ammunition will not be disposed of in the LFR trash containers.
- 8.9.7.6 **LFR User:** Blank ammunition or dye-marking cartridges may only be used at the LFR on a case-by-case basis with prior approval from the DOE/NTC Director (or designee). This decision may be based on recommendations from the PFT Manager, Range Master, or ESHPM.

8.10 Specific Range Descriptions and Authorized Ammunition

- A. Only DOE ammunition will be used with DOE weapons. When privately owned weapons have been approved by the DOE/NTC Director (see Section 8.4.6.1), users will provide their own ammunition.
- B. With the exception below, all combinations of small arms and ammunition (including 37mm and 40mm grenade launcher training and practice rounds) may be fired on the LFR.

NOTE: Tracer ammunition may not be fired on any range without prior Range Master approval.
- C. Upon request, written approval by their authorizing agency is required for non-DOE LFR users that use privately owned weapons for duty purposes.
- D. A ricochet hazard exists because range floors and berms may have rocks or other objects of varying sizes embedded in them. Even though range floors and berms are maintained to standards established in DOE Manual 470.4-3, Chg 1 (or current), for reducing ricochet hazards, even a very small object has the potential to result in a ricochet.
- E. For the simultaneous use of ranges at the LFR, the Firearms Instructors must coordinate by radio prior to allowing personnel down range and must coordinate with instructors using adjacent ranges. The following table shows the procedures for simultaneous range use.

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Ranges Authorized for Simultaneous Firing

Range	Authorized for Simultaneous Firing
Shotgun	All ranges except MP Range
Pistol 1	All ranges
Pistol 2	All ranges
Rifle 1	All ranges
Rifle 2	All ranges except when firing from the Tactical Training Tower
R&D	Includes the Live Fire Shoot House, 12-Position Range, and Vehicle Assault Range. Simultaneous use of two (or more) of the three areas on the R&D Range is not permitted. No one is permitted on the elevated observation control platform in the Live Fire Shoot House when either the 12-Position Range or Vehicle Assault Range is HOT. <u>NOTE:</u> Concurrent training may be permitted when compensatory measures (i.e., one or a combination of adequate ballistic protection, administrative controls, or tactical controls) are emplaced between any of the three ranges on the R&D Range, and with prior approval by the Range Master and ES&H staff.
MP	All ranges except Shotgun Range

8.10.1 Multi-Purpose (MP) Range

The MP Range is a 100-yard (300-foot or 91-meter) range with 24 firing/target positions.

- A. Handgun caliber ammunition
- B. Submachine gun firing handgun caliber ammunition
- C. Shotgun ammunition
- D. Rifle ammunition up to and including .30 caliber (5.56mm, 7.62mm, .308 cal.)
- E. Approved diversionary devices with the Range Master's approval.

NOTE: No machine gun firing allowed unless approved by the Range Master.

8.10.2 Clay Bird Range

The Clay Bird Range has 2 firing positions. Only shotguns with birdshot may be fired in the clay bird shooting area.

NOTE: The MP Range must be shut down when the Clay Bird Range is in operation. The Clay Bird Range may only be used with Range Master's approval.

8.10.3 Pistol Range 1

Pistol Range 1 is a 50-yard (150-foot or 46-meter) range with 22 firing/target positions.

- A. Handgun caliber ammunition
- B. Submachine gun firing handgun caliber ammunition
- C. Shotgun ammunition

NOTE: Rifle ammunition may not be fired on Pistol Range 1.

8.10.4 Pistol Range 2

Pistol Range 2 is a 50-yard (150-foot or 46-meter) range with 22 firing/target positions.

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- A. Handgun caliber ammunition
- B. Submachine gun firing handgun caliber ammunition
- C. Shotgun ammunition
- D. Rifle ammunition up to and including .30 caliber (5.56mm, 7.62mm, .308 caliber)
- E. Action Target System-Handgun ammunition only. Subgun may be used with handgun ammunition only.
- F. Approved diversionary devices with the Range Master's approval.

NOTE: No machine gun firing will be allowed unless approved by the Range Master. In addition, any weapons firing up to .30 caliber will be conducted within the specific limits of the range SDZ.

8.10.5 Rifle Range 1

Rifle Range 1 is a 300-yard (900-foot or 274-meter) range with 20 firing/target positions.

- A. Handgun caliber ammunition
- B. Submachine gun firing handgun caliber ammunition
- C. Shotgun ammunition
- D. Rifle ammunition up to and including .30 caliber (5.56mm, 7.62mm, .308 cal.)
- E. 37mm and 40mm training and practice rounds
- F. Approved diversionary devices with Range Master approval

NOTE: No machine gun firing allowed unless approved by the Range Master.

8.10.6 Rifle Range 2

Rifle Range 2 is a 300-yard (900-foot or 274-meter) natural terrain range with multiple firing/target positions.

- A. Handgun caliber ammunition
- B. Submachine gun firing handgun caliber ammunition
- C. Shotgun ammunition
- D. Rifle ammunition up to and including .30 caliber (5.56mm, 7.62mm, .308 cal.)
- E. 37mm and 40mm training and practice rounds
- F. Approved diversionary devices with Range Master approval.

8.10.7 R&D Range

This range includes the Live Fire Shoot House, 12-Position Range, and Vehicle Assault Range. Simultaneous use of two (or more) of the three areas on the R&D Range is not permitted. No one is permitted on the overhead control and observation platform in the Live Fire Shoot House when either the 12-Position Range or Vehicle Assault Range is HOT.

However, concurrent training may be permitted when compensatory measures (i.e., one or a combination of adequate ballistic protection, administrative controls, or tactical controls) are emplaced between any of the three ranges on the R&D Range, and with prior approval by the Range Master and ES&H staff.

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8.10.7.1 12-Position Range

The 12-Position Range is a 100-yard (300-foot or 91-meter) range with 12 firing/target positions.

- A. Handgun ammunition
- B. Rifle ammunition up to and including .30 caliber (5.56mm, 7.62mm, .308 cal.)
- C. Shotgun ammunition
- D. Submachine gun firing handgun caliber ammunition
- E. Approved diversionary devices with the Range Master's approval.

NOTE: No machine gun firing is allowed unless approved by the Range Master.

8.10.7.2 Live Fire Shoot House

- A. Frangible (non-lead only) handgun caliber ammunition
- B. Rifle firing approved frangible (non-lead) 5.56mm ammunition (No other rifle ammunition permitted.)
- C. Submachine gun with frangible (non-lead only) handgun caliber ammunition
- D. Shotgun firing breaching ammunition
- E. Approved diversionary devices
- F. 37mm and 40mm training and practice rounds (Note: Must be used in a manner that will allow their impact to be in the direction of the berm.)
- G. Dye-marking cartridges may be used with approval of the DOE/NTC Director (or designee).
- H. Prohibited ammunition (see Appendix J).

8.10.7.3 Vehicle Assault Range

All calibers of frangible and ball pistol ammunition and up to .223 caliber rifle ammunition may be fired on the Vehicle Assault Range.

8.11 Pyrotechnics and Explosives

PFT Manager, Range Master, and ESHPM: Responsible for the following tasks.

- 8.11.1 Approve all pyrotechnics and explosives to be used on the NTC LFR.
- 8.11.2 Approve deployment of diversionary devices in authorized areas. For example, on Rifle Range 2, diversionary devices may only be deployed in designated deployment boxes or areas where ground preparation has been performed.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

8.12 Other Range Facilities

8.12.1 Classrooms

NOTE #1: LOADED WEAPONS ARE NOT ALLOWED IN CLASSROOMS.

NOTE #2: LIVE AMMUNITION IS PROHIBITED IN CLASSROOM DURING FIREARMS TRAINING.

- 8.12.1.1 LFR User: Schedule use of the LFR classrooms through the NTC website using the electronic scheduling form.
- 8.12.1.2 Lead Instructor: Ensure all audiovisual equipment is used in an appropriate manner.
- 8.12.1.3 Lead Instructor: Ensure classrooms are left clean and straightened. Empty all trash and put in new liners. Sweep and mop floors as needed. Remove all training aids, and secure upon completion of training. Notify the Range Master of any discrepancies.

8.12.2 Weapons-cleaning Areas

NOTE: ABSOLUTELY NO LIVE AMMUNITION WILL BE ALLOWED IN THE WEAPONS-CLEANING AREA OR ROOMS.

- 8.12.2.1 Lead Instructor: Responsible for the tasks below.
 - 8.12.2.1.1 Inspect all student weapons at the clearing barrel before entering the weapons-cleaning areas or rooms.
 - 8.12.2.1.2 Ensure the students are familiar with weapons-cleaning procedures and use of the facility.
 - 8.12.2.1.3 Inspect the cleaning room for cleanliness, secure cleaning supplies, and close the cleaning room at the end of each use.
- 8.12.2.2 DOE and NTC LFR User: Responsible for the tasks below.
 - 8.12.2.2.1 Dispose of patches, towels, and other cleaning materials used for weapons cleaning. Use the appropriately marked containers that are provided for the collection of the weapons cleaning residue. Do not dispose of liquids in these containers.
 - 8.12.2.2.2 Wear eye protection in the cleaning rooms when cleaning weapons.
 - 8.12.2.2.3 Wear protective gloves and/or barrier cream, which will be provided, for hand protection.

NOTE: Compressed air used for cleaning purposes will be regulated at 30 psi maximum.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

8.13 Range Fans of Fire

8.13.1 Overview

- 8.13.1.1 Fans of fire have been established for each range to ensure that any projectiles leaving the range impact in an approved Surface Danger Zone (SDZ) established for the LFR according to AR 385-63. **These fans of fire are mandatory.** Any live fire will be in a direction such that, if the bullet misses a berm or bullet containment device, it will land within a designated SDZ.
- 8.13.1.2 Limit poles will be placed 10 feet (3 meters) apart on each range. The maximum horizontal angle of bullet travel is determined by observing the pole alignment from the firing point. The horizontal angle from range centerline must not exceed the angle created by the poles (see Figures 1, 2, and 3). Red limit poles will be used to control all rifle caliber fire. Green limit poles will be used to control pistol-caliber and shotgun fire.

8.13.2 Moving Targets

LFR User: Responsible for the tasks below.

- 8.13.2.1 All training using moving targets will be conducted in a location and in a manner that is compatible with all established fans of fire, using applicable limit poles for the specific caliber.
- 8.13.2.2 Obtain approval from the PFT Manager, Range Master, and ESHPM for training to be conducted outside the parameters of this procedure. All requests will be submitted to the NTC Director through the PFT Manager or the NTC General Manager.

8.13.3 Target Vehicles

8.13.3.1 LFR User: Responsible for the tasks below.

- 8.13.3.1.1 Only vehicles that have had the gas tank removed and all fluids removed may be used as targets on the LFR complex.
- 8.13.3.1.2 Training using target vehicles will be conducted in a location and in a manner that is compatible with established fans of fire, using applicable limit poles for the specific caliber. When conducting live fire vehicle training, target placement within the vehicle will provide as close to a 90-degree firing angle as possible.
- 8.13.3.1.3 When conducting live fire vehicle assault training, long-sleeve shirts, gloves, body armor, and approved eye and ear protection will be required for instructors, shooters, and observers.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

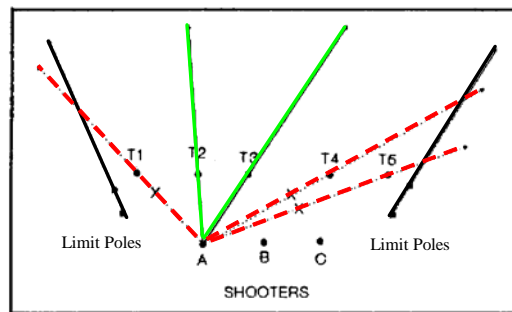


Figure 1. Shooter A may engage targets 2 and 3, but not 1, 4, or 5.

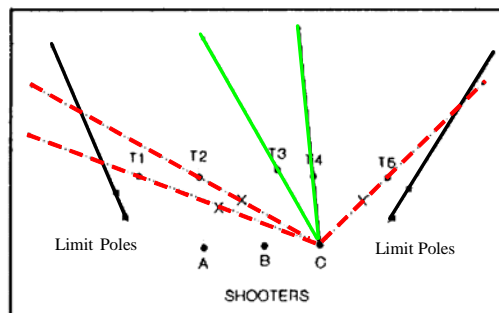


Figure 2. Shooter C may engage targets 3 and 4, but not 1, 2, or 5.

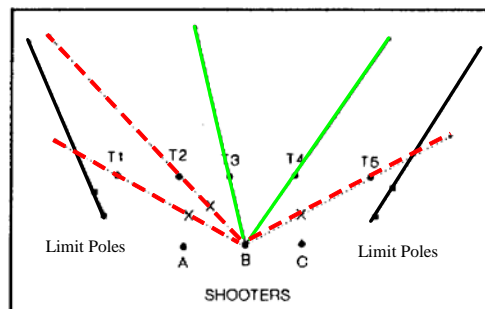


Figure 3. Shooter B may engage targets 3 and 4, but not 1, 2, or 5.

NON-PROPRIETARY INFORMATION

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- 8.13.3.2 Instructor: When conducting bullet penetration demonstrations on vehicles, ensure appropriate shooter-to-target distances are established (see Paragraph 8.6.1).

NOTE: Instructors are solely responsible for conducting bullet penetration demonstrations.

- 8.13.3.2.1 Conduct bullet penetration demonstrations at distances no closer than 7 yards (6 meters).
- 8.13.3.2.2 During demonstrations, do not permit shotgun slugs and shot to strike target vehicle wheels.
- 8.13.3.2.3 Rifles, handguns, and shotguns (shot or slugs) may be used for car body, glass, and tire penetration demonstrations.
- 8.13.3.2.4 Do not perform shooting through glass on ranges unless approved by the PFT Manager and Range Master. Ensure shattered glass is policed up upon completion of firing.
- 8.13.3.2.5 Perform ricochet demonstrations only with the approval of the PFT Manager and Range Master.
- 8.13.3.2.6 Ensure that target vehicle placement for bullet penetration demonstrations does not result in damage to existing target systems that may be behind target vehicles.

8.14 Maintenance

8.14.1 Training Support

- 8.14.1.1 Range Master: Coordinate any range or facility modifications required for courses.
- 8.14.1.2 PFT Manager and ESHPM: Approve construction of, or modification to, range facilities.

8.14.2 Maintenance and Inspections

LFR Maintenance Staff: Responsible for the tasks below.

- 8.14.2.1 Empty brass collection containers from all ranges daily, and place collected brass in the approved storage area.
- 8.14.2.2 Inspect all fences, gates, doors, and locks weekly to ensure proper operation.
- 8.14.2.3 Inspect all range facilities and support equipment weekly, and report damage or deficiencies to the Range Master.
- 8.14.2.4 Inspect the equipment storage bunkers located on each range weekly to ensure sufficient inventories of eye and ear protection are available.

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- 8.14.2.5 Perform a pre-operational check of range maintenance vehicles to ensure safe operation. If a range maintenance vehicle is found to be in need of repair or in an unsafe condition, the vehicle will be taken out of service until it has been repaired.
- 8.14.2.6 Inspect eyewash stations weekly to ensure they are working properly.

8.15 Emergency Procedures

- 8.15.1 In the event of an emergency at the LFR, follow appropriate emergency procedures outlined in NTC-PM-504, NTC Emergency Management Plan. A summary of emergency actions is posted at the emergency telephone located at each range.
- 8.15.2 Report emergencies at the LFR first and always by dialing **911** (SNL Emergency Operations Center).

NOTE: If using a cell phone dial **844-0911**. However, cell phone coverage at the LFR is uncertain, so their use is not recommended.

When making the call, individuals should be prepared to state:

- The nature of the illness or injury,
- The location where emergency responders are needed, and
- Their name and the phone number from where they are calling.

The following NTC staff should also be informed of emergency situations as appropriate and as soon as possible:

Protective Force Training Manager	845-5170 (ext. 600)
Range Master	845-5170 (ext. 605)
ES&H Program Manager	845-5170 (ext. 154)
ES&H Safety Specialist	845-5170 (ext. 153 or 155)
ES&H Cell Phone	238-0483

NOTE: Notification procedures, as outlined in Appendix B, must be adhered to by all staff.

- 8.15.3 After-Hour Emergency Procedures (After 5:00 PM)

Report after-hour emergencies by contacting the DOE Transportation Emergency Control Center (TECC). The TECC is a 24-hour operations center whose staff initiates all required onsite and offsite emergency notifications. The TECC will ensure that all necessary NTC parties are notified.

The TECC 24-hour emergency number is (505) 845-4667.

NON-PROPRIETARY INFORMATION

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8.16 Fire Conditions and Restrictions

Weather conditions involving long-term periods of dryness can adversely affect firearms training due to increased fire hazard in Coyote Canyon. This includes the LFR and ISSTEC areas.

Range Master: Post the appropriate Fire Conditions Warning Signs and determine when conditions limit certain types of training. This determination will be made in conjunction with U.S. Forest Service criteria (see Appendix F for such restrictions).

8.17 Risk Analyses

All LFR users will adhere to the risk controls identified in the LFR Safety Assessment Report and applicable risk analyses.

9.0 APPENDICES

- A – Sample Range Use Agreement
- B – Actions to Take in Response to a Significant Event
- C – Sample Range Use Log
- D – Sample Range Sign In/Out Log
- E – LFR Maintenance Operations
- F – Prohibited Ammunition in Live Fire Shoot House
- G – Range Safety Officer
- H – U.S. Forest Service Fire Condition Warning Signs and Restrictions

**APPENDIX A – SAMPLE RANGE USE AGREEMENT
BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY NATIONAL TRAINING CENTER
AND**

(Agency/Unit)

I. BACKGROUND

The mission of the United States Department of Energy (DOE) National Training Center (NTC) is to ensure the safe, efficient, and effective training of Safeguards and Security (S&S) personnel throughout DOE who are, or may become, involved in the protection of vital national resources. The NTC provides program management of S&S training at all DOE facilities pursuant to DOE Order 470.4A, Safeguards and Security Program (or current version). A large percentage of the DOE's training program comprises firearms and tactics. This type of training is conducted at the NTC's Live Fire Range (LFR) and Integrated Safety and Security Training and Evaluation Complex (ISSTEC). Other tactical training facilities are available on the NTC Main Campus.

II. PURPOSE

The DOE, NTC, and _____

(Agency/Unit)

enter into this Range Use Agreement (RUA) to set forth an agreement by all parties pertaining to the safe use and scheduling of the NTC LFR, ISSTEC (including Building 9825H, Shoot House), and Main Campus.

III. AUTHORITY

The authority for entering into this RUA is the Intergovernmental Personnel Act of 1970.

IV. POLICY

This agreement sets forth general policy for the safe use and scheduling of the NTC LFR, ISSTEC (including Building 9825H, Shoot House), and Main Campus.

V. RULES AND PROCEDURES

A. The NTC agrees to the following rules and procedures:

1. LFR

- a. The NTC will authorize use of the LFR and specified facilities on a scheduled, space-available basis.
- b. The Range Master will provide copies of the LFR standard operating procedures and other requirements or changes made thereto.
- c. The NTC will extend the use of the NTC paramedic service when on duty for regular NTC training operations.
- d. The Range Master will be the point-of-contact for the initial safety briefing and all scheduling in coordination with the Protective Force Training Manager.
- e. The NTC will provide (separate from range scheduling) classroom facilities on a scheduled, space-available basis.

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This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- f. The NTC will provide initial and annual safety briefings for user agency instructor personnel.

2. ISSTEC

- a. The NTC will authorize use of the ISSTEC facilities on a scheduled, space-available basis.
- b. The ISSTEC Manager will provide a copy of NTC standard operating procedure 643, ISSTEC Operations, and other requirements or changes made thereto.
- c. The NTC will extend the use of the NTC paramedic service when on duty for regular NTC training operations.
- d. The ISSTEC Manager will be the point-of-contact for the initial safety briefing and scheduling.
- e. The NTC will provide classroom facilities on a scheduled, space-available basis.
- f. The NTC will provide initial and annual safety briefings for user agency instructor personnel.

3. Main Campus

- a. The NTC will authorize use of the Main Campus and specified facilities on a scheduled, space-available basis.
- b. The Range Master will provide copies of the LFR standard operating procedures and other requirements or changes made thereto.
- c. The NTC will extend the use of the NTC paramedic service when on duty for regular NTC training operations.
- d. The Range Master will be the point-of-contact for the initial safety briefing and all scheduling in coordination with the Protective Force Training Manager.
- e. The NTC will provide (separate from range scheduling) classroom facilities on a scheduled, space-available basis.
- f. The NTC will provide initial and annual safety briefings for user agency instructor personnel.

B. The _____ agrees to the following rules and procedures:
(Agency/Unit)

1. LFR

- a. All users must sign in at the LFR Administration Building as outlined in this policy. During normal business hours, all users must proceed to Building 100 to sign in on the Range Sign-in/out Sheet. Users must sign out on the Range Sign-in/out Sheet after training is completed if the training is completed during normal business hours (SOP 644, 7.76.3). Before and after training, all users must sign the Range Use Log providing all required information (SOP 644, 8.3).
- b. The user-agencies accept the use of the firing range in its existing condition. If using the Live Fire Shoot House, users will conduct a pre and post inspection of the facility as outlined in PFT-SOP-645, Live Fire Shoot House, Appendix C. Neither the DOE/NTC nor any of its contractors has made any warranty, express or implied, (a) with respect to the condition of the firing range, (b) that the user agency's use of the firing range will not result in injury or damage, (c) that the user agency's use of

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

- the LFR will accomplish the intended objectives, or (d) that the LFR is safe for any purpose including the intended purpose.
- c. If the user agency either fails or refuses to abide by any of said rules, procedures, or regulations, the NTC Director may revoke permission to continue to use the firing range.
 - d. The user agency will provide documentation to the LFR Range Master that firearms instructors and medical personnel have attended NTC safety training and have read and verified (by signature) that they understand and will abide by the NTC LFR SOP. (The LFR- and Shoot House-related SOPs are available on the NTC website.)
 - e. The user agency will provide a point of contact for safety and scheduling coordination, and a list of user-agency-certified firearms instructors and medical emergency response personnel. This list will be Attachment 1 to this RUA. In the event of any changes to user agency personnel, the list shall be revised accordingly.
 - f. The user agency will provide ammunition, targets, and associated training equipment required for user agency activities at the LFR.
 - g. The user agency will provide and use appropriate personal protective equipment and will comply with all NTC LFR safety policies. An individual's failure to comply with safety policies may be cause for removal from LFR training.
 - h. The user agency will request range/facility use via NTC website, telephone, in person, or in writing as far in advance as possible to ensure availability. This request should include a brief description of the type of operations or training that will be conducted, and the name, address and telephone number of the individual(s) responsible for providing operational firearms safety oversight.
 - i. For periods during which NTC paramedics are not on duty, the user agency will provide medical emergency response personnel that are trained and qualified in cardiopulmonary resuscitation (CPR) and first aid. First-aid training should include the handling of gunshot wounds.
 - j. The user agency will instruct all personnel using the LFR facilities that the NTC weapons-cleaning facility is not available for use and that all weapons must be cleaned at a location other than the LFR.
 - k. In the unlikely event of a safety or procedure violation, the NTC will conduct a review before allowing further use of the LFR facility. The user agency and its members agree to cooperate with and, if necessary, assist in this review process, and to provide a detailed incident report and corrective actions taken to minimize the likelihood of similar incidents.
 - l. The user agency will designate an individual who will be present during each range use and will be accountable for (a) preventing any improper disposal of live ammunition in LFR trash containers, and (b) ensuring that the range is clean (including brass clean-up).
 - m. The user agency will designate an individual to ensure that weapons are safe, cleared, and inspected upon completion of training.
 - n. The user agency will provide the LFR Range Master with the type and manufacturer of all ammunition expended during each LFR training activity.
 - o. When training must be canceled, the user agency is responsible for contacting the LFR at the earliest possible date to cancel the ranges/facilities.

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- p. The user agency will replace or repair any LFR property lost or damaged through negligent use or misconduct.

2. ISSTEC

- a. All users must sign in at the LFR Building 100 (Administration). During normal business hours, all users must proceed to Building 100 to sign in on the Range Sign-in/out Sheet. Users must sign out on the Range Sign-in/out Sheet after training is completed if the training is completed during normal business hours. Before and after training at ISSTEC, all users must sign the ISSTEC Use Log providing all required information.
- b. The user agencies accept the use of the ISSTEC in its existing condition. Users and the ISSTEC Manager will conduct pre- and post-inspections of the facility. Neither the DOE/NTC nor any of its contractors has made any warranty, express or implied, (a) with respect to the condition of the ISSTEC facilities, (b) that the user agency's use of the ISSTEC facilities will not result in injury or damage, (c) that the user agency's use of the ISSTEC facilities will accomplish the intended objectives, or (d) that the ISSTEC facilities are safe for any purpose, including the intended purpose.
- c. If the user agency either fails or refuses to abide by any of said rules, procedures, or regulations, the NTC Director may revoke permission to continue to use the ISSTEC facilities.
- d. The user agency will provide documentation to the ISSTEC Manager that firearms instructors and medical personnel have attended NTC safety training and have read and verified (by signature) that they understand and will abide by the NTC ISSTEC SOP. (The ISSTEC SOP is available on the NTC website.)
- e. Prior to training, the user agency will provide the ISSTEC Manager with the type of ammunition expended during each ISSTEC training activity.
- f. The user agency will provide a point of contact for safety and scheduling coordination and a list of user agency instructors, certified firearms instructors, and medical emergency response personnel. This list will be Attachment 1 to this RUA. In the event of any changes to user agency personnel, the list shall be revised accordingly.
- g. The user agency may provide additional training equipment required for user agency activities, as approved by the ISSTEC Manager.
- h. The user agency will provide and use appropriate personal protective equipment and will comply with all NTC ISSTEC safety policies. An individual's failure to comply with safety policies may be cause for removal from training at ISSTEC.
- i. The user agency will request use of the ISSTEC facilities through the NTC website, by telephone, in person, or in writing as far in advance as possible to ensure availability. This request should include a brief description of the type of operations or training that will be conducted, and the name, address and telephone number of the individual(s) responsible for providing operational firearms safety oversight.
- j. For periods during which NTC paramedics are not on duty, the user agency will provide medical emergency response personnel that are trained and qualified for the training to be conducted and, at a minimum, for ESS activities.
- k. The user agency will instruct all personnel using the ISSTEC facilities that the NTC weapons-cleaning facility is not available for use and that all weapons must

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be cleaned at a location other than the ISSTEC.

- l. In the unlikely event of a safety or procedure violation, the NTC will conduct a review before allowing further use of the ISSTEC facility. The user agency and its members agree to cooperate with and, if necessary, assist in this review process, and to provide a detailed incident report and corrective actions taken to minimize the likelihood of similar incidents.
 - m. The user agency will designate an individual who will be present during user agency training at ISSTEC and will be accountable for (a) preventing any improper disposal of ammunition in ISSTEC trash containers, and (b) ensuring that the ISSTEC facility is clean (including brass clean-up).
 - n. The user agency will designate an individual to ensure that weapons are safe, cleared, and accounted for upon completion of training.
 - o. When training must be canceled, the user agency is responsible for contacting the NTC at the earliest possible date.
 - p. The user agency will replace or repair any ISSTEC property lost or damaged through negligent use or misconduct.
3. Main Campus
- a. Initially, all proposed activities to be conducted on the Main Campus must be coordinated through the Range Master (see Section V.A.1.d above).
 - b. The Range Master will coordinate activities beyond the normal scope of training (for example, use of the Student Services Center) with appropriate personnel, as necessary. Such activities may require additional approvals, up to and including approval by the DOE/NTC Director.

VI. RISKS AND HAZARDS

1. The _____
(Agency/Unit)
is aware of the risks and hazards inherent in entering upon and using DOE/NTC facilities, and hereby elects voluntarily to enter upon said premises with full knowledge of those risks and hazards. Under the Federal Tort Claims Act (FTCA), 28 U.S.C. 1346 et seq., the U.S. government is liable for the loss or destruction of property or personal injury or death caused by the negligent or wrongful acts or omissions of any employee of the government while acting within the scope of his or her office or employment.
- 2a. Federal Agency: The _____,
(State, County, or City)
acting through the _____,
(Agency/Unit)
accepts liability for all damages arising from its use of the facilities, to the maximum extent allowed by federal law, including the FTCA and the Anti-Deficiency Act, 31 U.S.C. 1341 et seq.
- 2b. State Agency: The _____,
(State, County, or City)
acting through the _____,
(Agency/Unit)

NON-PROPRIETARY INFORMATION

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accepts liability for all damages arising from its use of the facilities, to the maximum extent allowed by New Mexico Tort Claims Act, N.M. Stat. Ann. 41-4 et seq., as amended.

3. The _____
(Agency/Unit)

will cooperate fully with DOE/NTC in the processing of any claims arising out of the use of DOE/NTC facilities, including claims under the FTCA pursuant to 28 CFR 14.2.

VII. PUBLIC INFORMATION COORDINATION

Subject to the Freedom of Information Act (5 U.S.C. 552), decisions on disclosure of information to the public regarding training or exercises conducted at the NTC LFR, ISSTEC, or Main Campus will be made following consultation between the Parties hereto.

VIII. AMENDMENT AND TERMINATION

This RUA may be modified or amended by mutual written agreement between the Parties and may be terminated by either party upon 30 days' written notice.

IX. EFFECTIVE DATE

The RUA becomes effective when:

- a. Both the user agency and the NTC Director have signed the RUA.
- b. The user agency's designated instructor(s) and certified firearms instructor(s) complete the safety briefing for use of the LFR, ISSTEC, and/or Main Campus.

The RUA is effective through **December 31, 2008**, unless terminated pursuant to Article VIII of this document.

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

In witness whereof, the parties have executed this RUA effective on the respective dates indicated below.

(Agency/Unit)

By: _____
Authorized Signature

Name

Title

Address

City, State, Zip

Phone No.

E-Mail Address

Date: _____

U.S. Department of Energy
National Training Center

By: _____
Authorized Signature

Jeffrey P. Harrell
Director
National Training Center
P.O. Box 18401, KAFB
Albuquerque, NM 87185
(505) 845-6403

Date: _____

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

**RANGE USE AGREEMENT BETWEEN
THE UNITED STATES DEPARTMENT OF ENERGY NATIONAL TRAINING CENTER
AND**

(Agency/Unit)

POINT(S) OF CONTACT FOR SAFETY AND SCHEDULING COORDINATION

POINT OF CONTACT 1

Name: _____

Title: _____

Phone: _____

Address: _____

E-Mail Address: _____

POINT OF CONTACT 2

Name: _____

Title: _____

Phone: _____

Address: _____

E-Mail Address: _____

POINT OF CONTACT 3

Name: _____

Title: _____

Phone: _____

Address: _____

E-Mail Address: _____

NON-PROPRIETARY INFORMATION

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FIREARMS INSTRUCTOR(S)

Certification must be provided for each individual listed.

Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____

LIVE FIRE SHOOT HOUSE INSTRUCTOR(S)Certification and current qualification scores must be provided for each individual listed
(see SOP 645)

Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____

ESS INSTRUCTOR(S)

Certification must be provided for each individual listed.

Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____

EMERGENCY RESPONSE MEDICAL PERSONNEL

Certification must be provided for each individual listed.

Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____
Name: _____	Name: _____
Title: _____	Title: _____

NON-PROPRIETARY INFORMATION

This SOP was prepared by the Protective Force Training Department and is scheduled for annual review in October 2008.

APPENDIX B – ACTIONS TO TAKE IN RESPONSE TO A SIGNIFICANT EVENT

B.1 DEFINITIONS

MALFUNCTION / FAILURE. For reporting purposes, an event that results in personal injury or damage to property or firearms.

NEAR MISS. An incident that does not result in personal injury, property damage, or schedule delay but has the potential to do so.

SIGNIFICANT EVENT. An unplanned or unintended event that occurs at the NTC LFR. Significant events include unauthorized discharges, weapons malfunctions or failures, accidents, injuries, unusual incidents, and near misses.

UNAUTHORIZED DISCHARGE (UD). The discharge of a firearm under circumstances other than (a) during firearms training with the firearm properly pointed downrange (or toward a target), or (b) the intentional firing at hostile parties when deadly force is authorized.

B.2 POLICIES

Individuals involved in a significant event should immediately take appropriate emergency actions to preserve the safety and well-being of the individuals and equipment involved in the event. Following these actions, NTC employees are responsible for reporting all details associated with the significant event and complying with all investigative measures.

An investigative team will be comprised of, at a minimum, one member of the ESH&QA Department, the PFT Department, and the Armory, as applicable.

B.3 OPERATIONS

B.3.1 Reporting the Event

In the event of a significant event, NTC employees are responsible for reporting the event and complying with the NTC reporting procedures. All other users of the NTC LFR are responsible for reporting the event to the LFR staff and complying with their specific agency reporting policies.

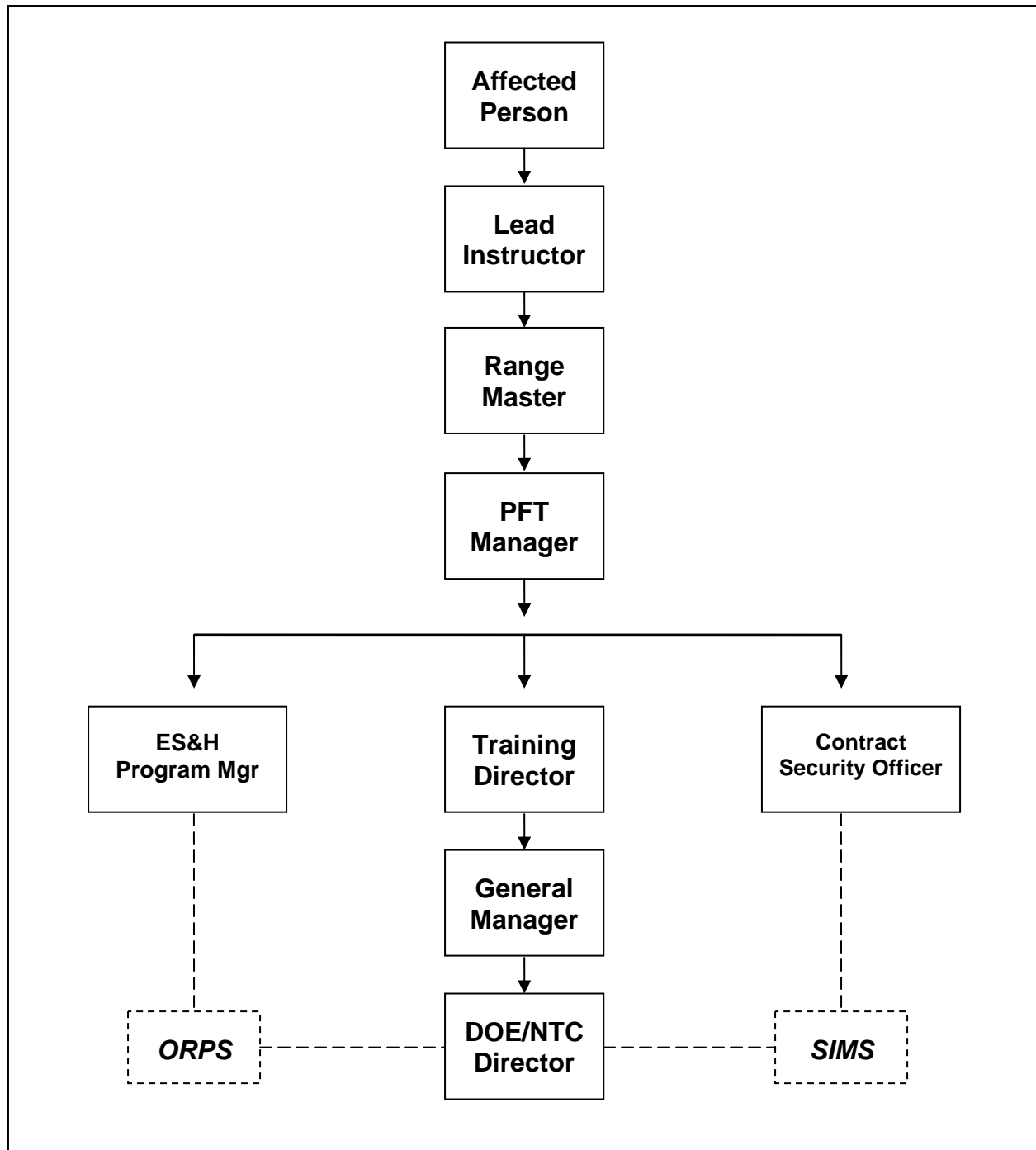
1. Personnel involved in or witnessing a **significant event** will immediately report the event to a Supervisor and/or Range Officer.
2. The reporting process will include notification through the chain-of-command, as appropriate, starting with the individual reporting the event:
 - Lead Instructor
 - Range Master
 - PFT Manager
 - ESHPM, Training Director, and Contract Security Officer

NON-PROPRIETARY INFORMATION

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- NTC General Manager
- DOE/NTC Director

Each individual is responsible for immediately notifying the next entity in the chain-of-command, as show in the figure.



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3. In accordance with DOE directives, the ESHPM will complete an occurrence report and submit it to the Occurrence Reporting Processing System (ORPS), and the Security Manager will complete an occurrence report and submit it to the Security Incident Management System (SIMS). The ESHPM and Security Manager will obtain signatures from the DOE Director on the reports prior to submitting them to ORPS and SIMS, as necessary.

B.3.2 Investigating the Event

B.3.2.1 General Procedures

1. Secure the incident scene as an “accident scene” in order to preserve evidence.
2. Obtain written statements from all involved parties (instructors, students, and observers) as soon as practicable. Interviews will be accurately documented in detail.
3. Collect evidence (including but not limited to):
 - Photographs, if possible;
 - Accurate, measured diagrams of the scene showing locations of all instructors, students, and observers; target locations; direction of fire; and bullet(s) and fragment(s) impact(s) locations;
 - Ammunition details, including lot number, firearm type (including features and serial number), and firearm condition immediately after a UD; and
 - Environmental conditions such as temperature, wind speed and direction, and lighting conditions.
4. For incidents involving firearms, secure weapons for inspection and function check (if appropriate).
5. Perform testing to duplicate events only with concurrence of the cognizant contractor and DOE officials, under written test plans, and in a manner to preserve evidence.
6. The cognizant DOE authority (for example, NTC Director) must authorize:
 - The release of the incident scene;
 - The release of firearms, related equipment, and other evidence for use;
 - Affected personnel to return to duty; and
 - Resumption of the suspended activity.

B.3.2.2 UD-Specific Procedures

1. Lead Instructor: Remove the individual firing the UD and other involved parties from training or immediately relieve them of duty to allow the incident investigation to commence.

NON-PROPRIETARY INFORMATION

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2. Lead Instructor: Immediately cease the training, qualification, or equivalent activities in which the UD occurred in order to allow the incident investigation to commence.
3. Lead Instructor: Clear the firearm(s) that fired and make them safe under the observation of a Firearms Instructor.
4. Firearms Instructor: Record the condition of the firearm(s) and any comments on any observed firearm-related topics (for example, malfunctions).
5. Lead Instructor: Immediately take the firearm(s) that fired the UD and any involved equipment (such as holsters, tactical bags, body armor, equipment vests, etc.) into custody as evidence and control it to preserve and record the chain of custody.
6. Lead Instructor: Provide the firearm(s) involved in the UD to an NTC Gunsmith for a function check.
7. Gunsmith: Document the function check findings.
8. Cognizant DOE Authority (for example, NTC Director) must authorize:
 - The release of the incident scene;
 - The release of firearms, related equipment, and other evidence for use;
 - Personnel to return to duty; and
 - Resumption of the activity.

NON-PROPRIETARY INFORMATION

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APPENDIX C – SAMPLE RANGE USE LOG

Date	Start Time	Finish Time	Organization	Person in Charge	# of People	Ammo Type Used											Weight In Grains	Rounds Fired
						.357 sig	9mm	40 S&W	45 ACP	10mm	.223/5.56	5.56 bltd	7.62/308	7.62 bltd	40mm TP	Shotgun		

NON-PROPRIETARY INFORMATION

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APPENDIX D – SAMPLE RANGE SIGN-IN/SIGN-OUT LOG

Date	Time In	Time Out	Organization	Name	Personnel Information		Facilities Being Used/ Reason For Use
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
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					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
					Lead Instructor		
					Medic**		
				** Medical personnel must be a Paramedic or CPR/first aid and gunshot-certified.			

NON-PROPRIETARY INFORMATION

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APPENDIX E – LFR MAINTENANCE OPERATIONS

The Live Fire Range (LFR) Maintenance Staff has been authorized to perform routine preventive and operational maintenance activities at the LFR. These routine LFR maintenance activities are essential for the safe and efficient management of U.S. Department of Energy (DOE) Security training programs at the LFR.

Routine maintenance activities are those recurring tasks that are required to maintain an operational range facility and provide appropriate equipment and training materials to meet NTC course objectives. The hazards associated with these maintenance activities have been identified and are within an acceptable risk level when performed correctly by qualified personnel. Examples of routine maintenance operations include but are not limited to

- Fabrication, storage, distribution, and disposal of wooden target frames;
- Fabrication, storage, inspection, maintenance, and disposal of steel targets;
- Fabrication, distribution, inspection, maintenance, and cleaning of bullet traps;
- Maintenance of range equipment, including electrical and mechanical systems;
- Maintenance of overall range condition, including target and firing lines, impact and side berms, and access controls; and
- Support courses in progress, as required.

SOP 536, Shop Operations and General Maintenance, outlines general safety requirements that must be implemented during routine maintenance activities. Routine maintenance activities performed at the LFR may involve:

- Welding and cutting operations,
- Using woodworking machines,
- Using portable hand and power tools,
- Using material handling equipment,
- Operating overhead cranes,
- Operating motor vehicles, and
- Electrical safety.

Non-routine maintenance activities (including LFR operations) will require completion of an NTC work order, and will be conducted in compliance with procedures outlined in Section 8.9.4 of this SOP. Procurement procedures will require safety review and input for contracted maintenance and construction services. Additionally, non-routine maintenance activities will require completion of a Maintenance work order. The instructions for completing this form include checking hazard identification blocks, as applicable, for input to work planning. NTC Safety Staff designed the hazards portion of the Maintenance work order and periodically review these forms for proper implementation. NTC Maintenance and Safety Staff will meet weekly to discuss maintenance activities and ensure early identification of hazards during work planning.

NON-PROPRIETARY INFORMATION

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APPENDIX F – PROHIBITED AMMUNITION IN LIVE FIRE SHOOT HOUSE

Certain ammunition may not be utilized while training in the NTC's Live Fire Shoot House due to the potential for damage or injury during training, wear on service weapons, or damage to target systems. This appendix describes such prohibited ammunition. Ammunition that is approved for use in the Live Fire Shoot House is also listed.

F.1 SMALL ARMS AMMUNITION (PISTOL CALIBER)

PROHIBITED: Lead, Non-Frangible, Hollow-Point, or Semi-Wadcutter ammunition of any caliber.

F.2 SMALL ARMS AMMUNITION (RIFLE CALIBER)

Only approved, specified .223 caliber non-lead, frangible ammunition will be permitted in the Live Fire Shoot House.

PROHIBITED: Lead, Non-Frangible, or Hollow-Point ammunition of any caliber. The following .223 caliber non-lead, frangible ammunition is prohibited for use in the Live Fire Shoot House:

- Remington Arms Company, Lead Free Non-Toxic Powdered Iron Core, 55 Grain Projectile
- Winchester/Olin Corporation, Non-Toxic Frangible, 55 Grain Projectile.

APPROVED: The following .223 caliber non-lead, frangible ammunition is approved for use in the Live Fire Shoot House:

- H-J Ballistic Research LLC, .223 Frangible, 42 Grain Projectile
- Lost River Ballistic Technologies, M40, 44 Grain Projectile
- Mullins Extreme Shock, Mullins Ammunition, 55SRT, 55 Grain Projectile
- Black Hills Ammunition, 62RRLP, 62 Grain Projectile
- International Cartridge Company, 42gRTP, 42 Grain
- Winchester/Olin Corporation, Ranger, Jacketed-Frangible, 45 Grain Projectile
- Simunition/Greenshield, Non-Toxic Frangible, 36 Grain Projectile.

NOTE: For .223 caliber frangible ammunition not listed, consult the NTC's Range Master.

F.3 SHOTGUN BREACHING AMMUNITION

PROHIBITED: Royal Arms International TESAR #2, 12 gauge, may not be used in the Live Fire Shoot House unless coordinated through the NTC Range Master and ESHPM, and approved by the NTC Director.

NOTE: TESAR #2 is not designed to breach metal doors. The Live Fire Shoot House utilizes wooden doors for its training rooms. If coordinated through the NTC Range Master and ESHPM and approved by the NTC Director—and metal doors are hung in training rooms—then TESAR #2 may be used in the Live Fire Shoot House.

NON-PROPRIETARY INFORMATION

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F.4 DIVERSIONARY DEVICES

Full-charge (operational) and reduced charge diversionary devices may be used in the Live Fire Shoot House.

Full-charge diversionary devices **MAY NOT** be employed in rooms or hallways that are occupied by personnel.

NON-PROPRIETARY INFORMATION

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APPENDIX G – RANGE SAFETY OFFICER

G.1 DEFINITION

RANGE SAFETY OFFICER (RSO). The designated and specifically trained individual that is responsible for safety at a live fire range (DOE Manual 470.4-3, Chg 1 [or current]).

G.2 REQUIREMENTS

The RSO for the Live Fire Range (LFR) at the Department of Energy's National Training Center (DOE/NTC) will be an instructor with specific, delineated responsibilities for range safety. This will include monitoring the safety performance of shooters as well as the overall safety of the firing range. The RSO will be present during all range firearms training, including qualifications.

G.3 RESPONSIBILITIES

1. Be familiar with the "Four General Firearms Safety Rules" and the "Fourteen Specific Safety Rules."
2. Be knowledgeable of NTC standard operating procedures.
3. Be knowledgeable of the range limit poles at the DOE/NTC LFR.
4. Be knowledgeable of the types of weapons and targets that may be used on specific ranges.
5. Be knowledgeable of instructor-to-shooter ratios for DOE/NTC live fire activities.
6. Possess a hand-held radio capable of communicating with the paramedic on duty and LFR staff.
7. Ensure a qualified Firearms Instructor gives a safety briefing to all students and observers prior to conducting any training/qualification activity.
8. Visually inspect the designated range for any safety hazards that may exist (for example, tripping or falling hazards).
9. Ensure a red flag is flying during daylight training and the red beacon is on during night training.
10. Report emergencies at the LFR by dialing **911**. The following NTC staff should also be informed of emergency situations as appropriate and as soon as possible.

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Protective Force Training Manager	845-5170 (ext. 600)
Range Master	845-5170 (ext. 605)
ES&H Program Manager	845-5170 (ext. 154)
ES&H Safety Specialist	845-5170 (ext. 153 or 155)
ES&H Cell Phone	238-0483

Report after-hour emergencies by contacting the DOE Transportation Emergency Control Center (TECC). The TECC is a 24-hour operations center whose staff initiates all required onsite and offsite emergency notifications. The TECC will ensure that all necessary NTC parties are notified.

The TECC 24-hour emergency number is (505) 845-4667.

11. Ensure a paramedic is on duty for NTC training. If training is being conducted without the presence of a paramedic, an NTC Instructor must be present who is currently trained/certified in first aid and cardiopulmonary resuscitation and has a medical trauma kit in his/her possession. Prior approval from the Range Master or PFT Manager is required.
12. Ensure that all individuals, including observers, have required personal protective equipment.
13. In coordination with the Lead Instructor, ensure training is suspended and all personnel are removed from the firing line to a designated safe area during electrical storms or when lightning is present.
14. In coordination with the Lead Instructor, make the determination when to stop firing due to adverse weather conditions.
15. During extreme heat conditions, ensure water is available and personnel involved in firearms training are given a break at least every 60 minutes.
16. Ensure all observers are located in a designated safe area.
17. When the training is complete, ensure each firearm is in a safe condition (safety on, ammunition/magazine removed, action open, and chambers clear), and is physically examined by the shooter and the RSO or qualified Firearms Instructor before leaving the LFR. (Shooters may reload the firearm at a clearing barrel if returning directly to duty.)
18. If shooters are to use the weapons cleaning room, the RSO or an Instructor will ensure weapons are inspected at the clearing barrel prior to entering the cleaning room.

For night firing:

19. Ensure a rotating red light is visible while firing is in process.
20. Conduct a visual inspection of the target area with a flashlight and a audible check to ensure no individuals are in the impact area prior to commencement of night firing.

NON-PROPRIETARY INFORMATION

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APPENDIX H – U.S. FOREST SERVICE FIRE CONDITION WARNING SIGNS AND RESTRICTIONS

Sandia Ranger District of the U.S. Forestry Service recommends that Kirtland Air Force Base (KAFB), including the withdrawn area, be one level above the Cibola National Forest Fire Danger Rating. ***KAFB will never be at a low Fire Danger Rating.***

Ascertain the current fire and weather conditions prior to conducting training activities in Coyote Canyon and, in particular, note if a “Red Flag Warning” is in effect for Albuquerque through the National Oceanic and Atmospheric Administration (NOAA) website (<http://fire.boi.noaa.gov/>). Activities outside the confines of the Live Fire Range (LFR) and ISSTEC facilities will be terminated or suspended if a “Red Flag Warning” condition is in effect.

The Fire Danger Classes listed below provide specific guidance relative to conditions and restrictions.

MODERATE OR HIGH

Restricts fires (open flame) and smoking to developed test sites. Use of pyrotechnics or blank ammunition will be permitted on the developed test sites in approved sandbagged/pitted areas and on the black-top of “No Sweat Boulevard”. Vehicles are restricted to paved or dirt roads or low-grass areas.



MODERATE



HIGH

Additional guidance:

- Normal training activities involving the use of small arms ammunition within the NTC LFR are permitted. No tracer ammunition is allowed.
- Use of flares is prohibited.
- Use of pyrotechnic diversionary devices is permitted within the Live Fire Shoot House and on developed exercise sites in approved sandbagged/pitted areas and on established roadways (paved, gravel, areas cleared of vegetation), to include previously disturbed or graded mineral soil areas.
- Only designated instructors or senior controllers will deploy pyrotechnics in the above-mentioned approved areas under this fire danger classification.
- Fire extinguishers and water pack extinguishers will be readily available.
- Small unit infantry-type tactical activities utilizing approved engagement simulation systems (ESS), Multiple Integrated Laser Engagement System (MILES), and/or dye-marking cartridges (DMC) are permitted.
- Off-road vehicle traffic should be minimized and limited to established roads and paths or low-grass areas.

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- Only vehicles with factory installed spark arresters and exhaust systems are authorized for use.

VERY HIGH

Restricts fires (open flames), smoking, and pyrotechnics. Smoking is permitted in non-government vehicles or approved smoking areas only. Use of pyrotechnics is permitted only in approved sandbagged/pitted areas; vehicles are restricted to paved or graded roads. "Burn Site" testing that emits embers with sufficient thermal capacity to start a fire outside of the cleared facility area is not allowed. Welding operations are restricted to areas cleared of weeds and other materials capable of burning to 35 feet.

VERY HIGH

Additional guidance:

- Normal training activities involving the use of small arms ammunition within the NTC LFR are permitted. Rounds must be contained within the confines of the range berms. No tracer ammunition is allowed.
- Use of flares is prohibited.
- Use of pyrotechnic diversionary devices are permitted within the Live Fire Shoot House and, upon approval, developed exercise sites in approved sandbagged/pitted areas and on established roadways (paved, gravel, areas cleared of vegetation), to include previously disturbed/graded mineral soil areas.
- Only designated instructors or senior controllers will deploy pyrotechnics in the above mentioned approved areas under this fire danger classification.
- Fire extinguishers and water pack extinguishers will be readily available.
- Small unit infantry-type tactical activities utilizing approved ESS, MILES, and/or DMC are permitted.
- Off-road vehicle traffic should be minimized and limited to established roads and paths or low-grass areas.
- Only vehicles with factory installed spark arresters and exhaust systems are authorized for use.

EXTREME

Restricts fires (open flames) and pyrotechnics. Use of pyrotechnics will be approved on a case-by-case basis to meet critical mission requirements. Smoking is allowed only inside non-government vehicles. No outside smoking is allowed in the remote Research and Development areas. "No Sweat Boulevard" is off limits to everyone even if they are not using pyrotechnics). Suspend non-essential testing operations. No testing will be conducted at Burn

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Site that emits embers with sufficient thermal capacity to start a fire outside of the cleared facility area. Welding operations are restricted to indoor areas or areas that have been shielded by partitions or welding drapes.

EXTREME

Additional guidance:

- Normal training activities involving the use of small arms ammunition within the NTC LFR is permitted. Rounds must be contained within the confines of the range berms. No tracer ammunition is allowed.
- Use of flares is prohibited.
- Use of pyrotechnic diversionary devices is only permitted within the Live Fire Shoot House. Use of all other pyrotechnics is prohibited unless special permission is coordinated through DOE and KAFB Fire Department.
- Only designated instructors or senior controllers will deploy pyrotechnics in approved areas under this fire danger classification.
- Fire extinguishers and water pack extinguishers will be readily available.
- Small unit infantry-type tactical activities utilizing approved ESS, MILES, and/or DMC are permitted.
- Off-road vehicle traffic should be minimized and limited to established roads and paths or low-grass areas.
- Only vehicles with factory installed spark arresters and exhaust systems are authorized for use.
- Open breech firing machine gun-type weapons are prohibited outside the LFR.

NOTE #1: Appropriate environmental documentation must be submitted and approved to the NNSA/Sandia Site Office prior to conducting training on “No Sweat Boulevard”. Contact Susan Lacy, Environmental Office, 845-5542

NOTE #2: The NNSA/Sandia Site Office will evaluate use of “No Sweat Boulevard” on a case-by-case activity specific basis. Contact Susan Lacy, Environmental Office, 845-5542, and the 377th ABW Fire Marshall (or his delegate), who have the authority to supersede restrictions.

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